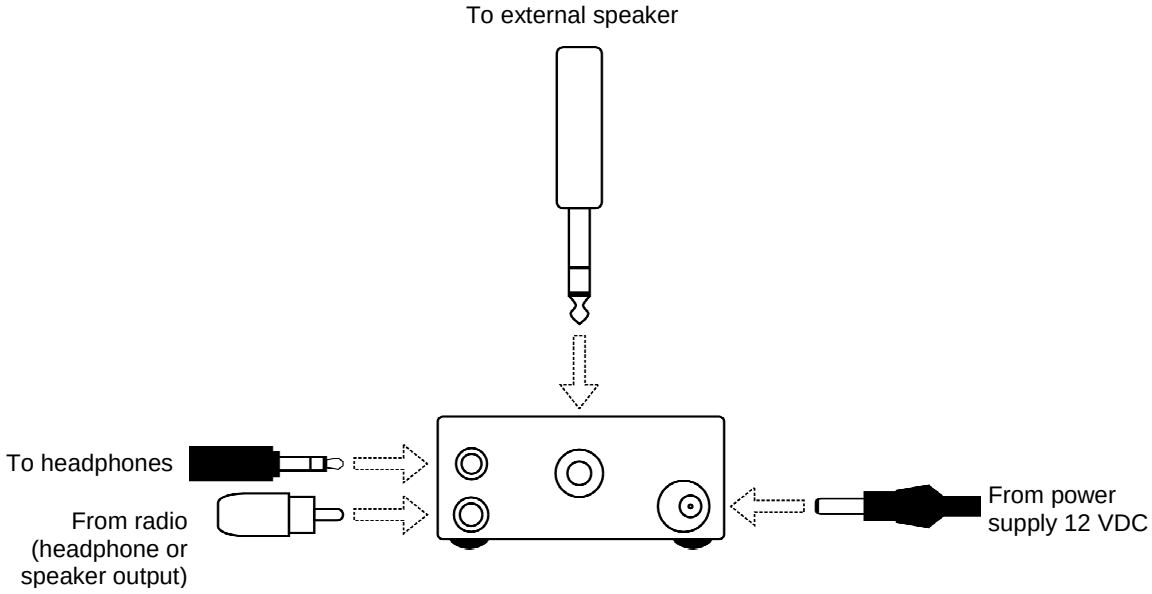
User Manual – SCAF-1 Audio Filter

Thank you for purchasing our SCAF-1 Audio Filter.

To put the filter in service you will need at least two cables. One cable goes from the audio output of your radio to the RCA jack on the SCAF-1, so it will need an RCA plug for terminating in the filter. (If your radio does not use an RCA jack for audio output, then the easiest way to make the required cable is to get an RCA cable, cut one end off, and then solder on the connector that is correct for your radio.) Another cable will be a 5.5 mm x 2.1 mm DC Coaxial power plug to a 12–14 VDC regulated power supply. The center pin is positive, the shell is negative. Caution: Do **NOT** use typical wall-wart "12 volt DC" supplies. These supplies often put out unfiltered pulsating DC, and frequently at voltages in excess of 15 volts which can severely damage your filter and void the warranty. Only use a regulated and well-filtered supply. Note that many transceivers have 12-volt outputs for auxiliary equipment – this is a good source. The 12 VDC or 13.8 VDC supply that powers your radio is also a good source.



By default, the large phone jack (1/4", 6.35 mm) is set up for the external speaker, and the small phone jack (3.5 mm, 1/8") is set up for headphones. If desired, the large phone jack can be set up for headphones and the small phone jack for the external speaker; see page 2.

By default, both the large and small phone jacks are set up for three-conductor (stereo) plugs, even though the signal is mono. If desired, each jack can be set up for two-conductor (mono) plugs; see page 2. Do not insert a mono phone plug into either phone jack without modifying the jack for mono – the signal would be shorted to ground.

Set-Up

As supplied, your SCAF Filter is set up so that the speaker output is found on the 1/4” jack, and the headphone output on the 1/8” jack. If you prefer to reverse this, open the filter and move the green lead from one jack to the comparable connection on the other jack. Do not interchange the black wires.

Note: The headphone jack and the speaker jack for the filter are both set for stereo plugs. If the plug you will be using for one jack or the other is a mono plug, you must cut the jumper wire across that jack. In this case, if you then plug a stereo headphone plug into the jack, you will hear output in only one side of the headset. Both the 1/4" (3.5 mm) jack and the 1/8" (6.35 mm) jacks are set up to accept stereo plugs. If you use mono plugs, you must open the case and cut the jumper wire across the appropriate plug. The jumper on the 1/4" in jack is a red wire, the jumper on the 1/8" jack is a bare wire.

For best results, your filter needs a very simple screwdriver adjustment to optimize it for your station and equipment.

☐ Remove the cover from the filter by removing the 4 screws in the sides and lift the cover off.

☐ Move the front panel switch into the “down” position. Turn the SCAF-1 front panel knob fully counterclockwise. Note that looking at the circuit board you will find an adjustable orange potentiometer near the front left corner of the circuit board. Using a small flat-blade screwdriver, set the potentiometer at half. Plug the 12-volt supply into the filter. Plug headphones into the jack you have specified for headphones. Plug the audio output from a receiver into the audio input.

☐ Put on your headset. Set the receiver so that either a wide CW filter or a narrow SSB filter is in use. Move the receiver so that a CW signal is being copied. Turn the front knob on the filter to about 11 o’clock. Adjust the receiver audio to a normal listening level. Turn the front panel switch up. The LED should light, and you should hear a distinct change in the receiver audio.

☐ Adjust the internal potentiometer, which is the filter’s audio gain potentiometer, so that the audio level of a received signal inside the SCAF-1 passband is essentially the same or if desired stronger than the signal when the SCAF-1 switch is off.

☐ Put the top on the unit, and secure it with the 1/4" stainless steel screws.

With the filter in circuit, turn the frequency cut-off control fully clockwise, and tune in an SSB signal. Now, experiment with the filter switched in and out of circuit, and try adjusting the front panel knob, which adjusts the low-pass cut-off frequency. You will quickly learn the capabilities of your SCAF-1. Then do the same with CW signals.

At this point further discussion about using the filter is pointless, since the operation of the filter is so simple and so effective. Note that data modes are useable with the filter in line as well; simply adjust the cut off frequency so that the desired signals pass through.

This filter is an unusual product. While the benefit of the filter may be limited in the case of a few “top of the line” transceivers, in most radios it will make operating considerably less fatiguing and more enjoyable. CW operators will also appreciate the fact that the filter is essentially real time in its output, unlike most DSP filters, so that the CW monitor coming through the headphones or speaker is 100% real time.

In any case, because technical specifications tend to be less meaningful in a product like this, we at Idiom Press would especially appreciate your telling your friends about this product, putting up reviews on **www.eham.net** etc.

Warranty

Your SCAF-1 filter is warranted against defects in material and workmanship for 90 days from the date of purchase from Idiom Press or from an authorized Idiom Press dealer.

This warranty does not cover damage or failure caused by or attributable to Acts of God (such as nearby lightning strikes), abuse, misuse, improper or abnormal usage, faulty construction, use of acid core or water soluble resin solders in construction, faulty installation, improper maintenance, application of excessive voltage, or improper construction or repair.

Idiom Press is not responsible or liable in any way for direct, indirect, special or consequential damages arising out of or in connection with the use or performance of the product or other damages with respect to loss of property, loss of revenues or profit, or costs of removal, installation or reinstallation.

Except as provided herein, Idiom Press makes no express warranties, and any implied warranty of merchantability or fitness for a particular purpose is limited in its duration to the duration of the written limited warranties set forth herein.

Always contact Idiom Press at **`info@idiompress.com`** before returning a unit! For repair, warranty or otherwise, contact Idiom press for instructions. Always include a letter carefully describing the problem. If the unit was purchased from a dealer, include a copy of your sales receipt.

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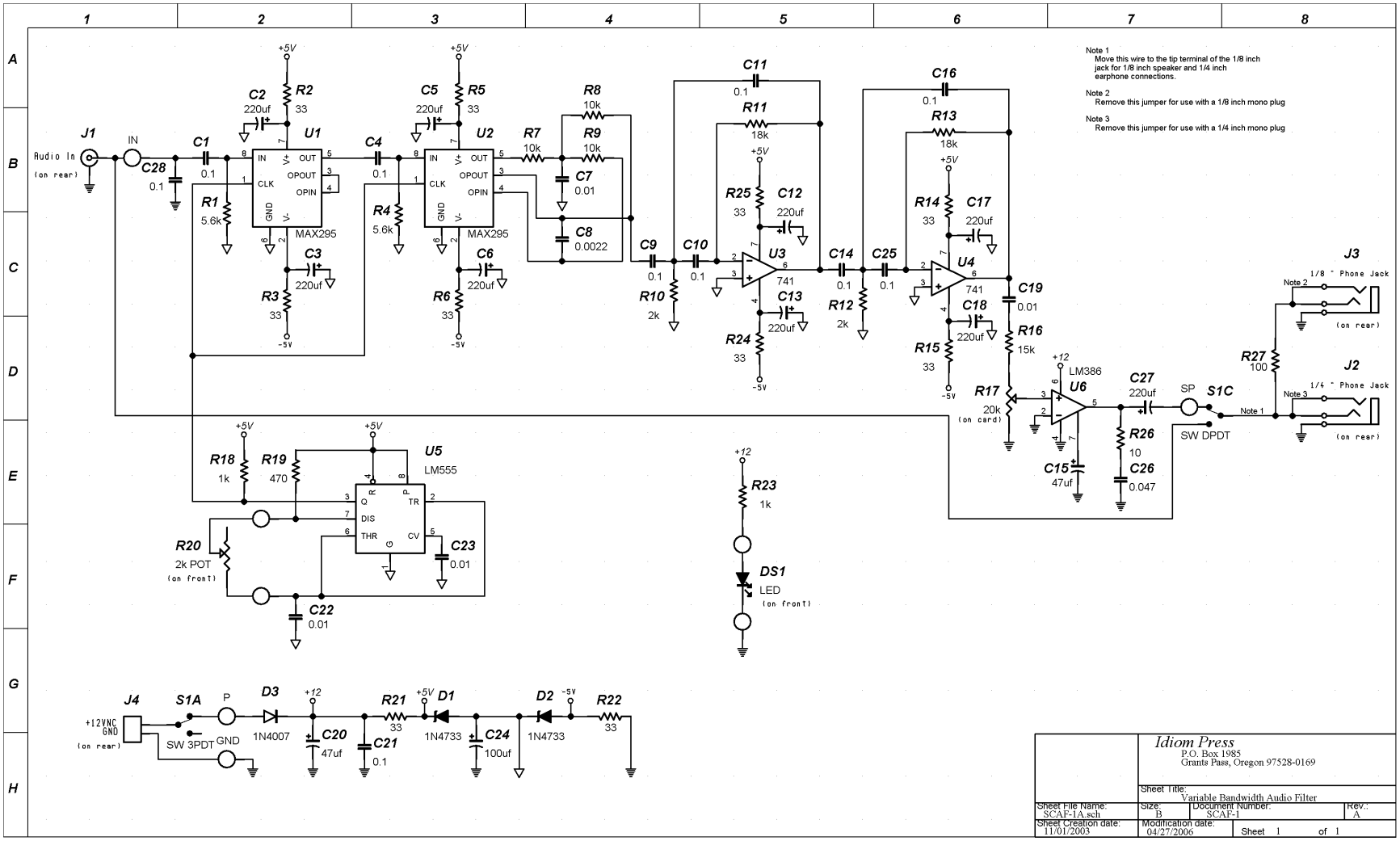

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